

Appl. No. 10/608,675  
Amdt. dated April 20, 2004

## IN THE CLAIMS

### Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently amended) A filter soil detecting device for detecting, when a filter is soiled, decrease in pressure at a secondary side of said filter below normal value or increase in pressure at a primary side of said filter above the normal value, said detecting device comprising:

a chamber ~~provided~~ having a first end connected in fluid communication with a channel at the primary side or secondary side of said filter;

a lens mounted on ~~the distal end~~ the second end of said chamber opposite the first end;

a diaphragm extended in said chamber in parallel with a lens principal plane of said convex lens for movement toward and away from the convex lens in response to a pressure change created at the primary side or the secondary side of the filter due to soiling of the filter;

a mark provided on ~~the~~ a surface of said diaphragm opposite to said convex lens to undergo movement in unison with the diaphragm relative to the convex lens, the mark, when viewed through the convex lens from the outside of the chamber forming an image; and

a vent provided between said diaphragm and said convex lens,

~~said diaphragm being movable toward or away from said lens by pressure at the primary side or secondary side of said filter, varying the image of said mark seen through said lens from outside, thereby allowing the detection of degree of soiling of said filter.~~

wherein a pressure rise at the secondary side of the filter or a pressure drop at the primary side of the filter that is created due to soiling of the filter.

2. (Currently amended) A detecting device ~~as set forth in claim 1~~ according to claim 1, further comprising a connecting pipe connected to said channel in a diverging manner, and an opposite end connected to the one end of said chamber in which said chamber is provided at the distal end of said connecting pipe.

3. (Currently amended) A detecting device ~~as set forth in claim 1~~ according to claim 1, wherein said chamber is directly connected to said channel.

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4. (Currently amended) A detecting device ~~as set forth in claim 1~~ according to claim 1, further comprising a lens shade covering approximately half said lens.

5. (New) A detecting device according to claim 1, wherein said pressure rise at the secondary side of the filter or the pressure drop at the primary side of the filter eventually causes the diaphragm to displace to the extent that the image of the mark viewed through the convex lens changes from a virtual image to a real image or from a real image to a virtual image.